

## ABSTRACT

A communication system is provided. It comprises a central office (CO) of a communication service provider and at least one subscriber premise (SP), each SP being linked to a CO by a subscriber-associated communication line comprising a twisted pair of telephone lines, and at least one xDSL modem in the CO coupled to  
5 said subscriber-associated communication line. Each SP has a plurality of communication devices, which comprises one or more telephone devices connected to the communication line and at least one network DSL (NDSL) modem associated with a computerized device, the NDSL modem being connected to said communication line; each of said modems having an upstream transmitter and a  
10 downstream receiver for communication with the CO and an upstream transmitter and an upstream receiver for communication with other NDSL modems within the SP. Provided is also a novel NDSL modem for use in the above system.

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